



Sir:

The article in your August, 1951, issue by Louis N. Ridenour, properly entitled "A Revolution in Electronics," is most interesting.

The article, however, conveys an entirely erroneous impression: that the three-electrode tube amplifier has virtually come to the end of its career. In fact, there is absolutely no justification for conveying such an impression. At the present time the transistor in its most advanced n-p-n form is a very great distance from proving to be an equivalent of the three-electrode tube.

Dr. Ridenour neglected to state anything regarding the frequency limitations of the transistor, which is, as I understand, limited to a few kilocycles. Under such limitations the transistor cannot begin to compete with the three-electrode tube, or audion, as I first styled it.

The highly amplifying gains of the transistor are indeed remarkable. It will undoubtedly prove a device of very great value where only low frequencies are involved. The collector capacitance of the transistor limits the frequency response at full gain to a few kilocycles. Even if by using a suitable mismatch it

LETTERS

is possible to maintain the frequency response flat to at least one megacycle, the general application of the transistor in radio and television receivers is far in the future. There is no definite assurance that these frequency limitations of the transistor will ever be overcome.

And when it comes to other uses, such as power oscillators for broadcasting, radio communication of every sort, and industrial applications, a transistor is, of course, not to be considered.

In view of the above stated facts, as borne out by the paper by Wallace and Pietsenpol in the July issue of *The Proceedings of the Institute of Radio Engineers*, Dr. Ridenour's statement, "This nearly half a century after deForest's invention of the tube that gave birth to electronics we are brought to the conclusion that there is nothing wrong with electronics that the elimination of vacuum tubes would not fix," is as totally misleading as it is silly.

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